AMENDMENTS TO THE CLAIMS

1. (Currently amended) A magnetic field analysis method for a rotating machine comprising:

a first process of receiving, as initial values, a value of a magnetic field distribution in a stator space and a value of the magnetic field distribution in a rotor space; ~~and~~

a second process of calculating the magnetic field distribution in a whole analysis space by using said initial values; and

outputting the magnetic field distribution.

2. (Original) The magnetic field analysis method for a rotating machine according to claim 1, wherein said second process comprises:

a process of deriving constant components and rotation fundamental mode components from the magnetic field distribution on a slide plane between a rotor and a stator obtained at a predetermined time;

a process of separating the whole analysis space into the stator space and the rotor space;

a process of rotating a rotation fundamental mode by a rotation angle of a rotation magnetic field corresponding to a time-step width and performing a magnetic field analysis in the stator space by using a rotation result added with the constant components as boundary conditions of the slide plane; and

a process of rotating the rotation fundamental mode by an angle obtained by subtracting a rotation angle of the rotor corresponding to the time-step width from the rotation angle of the rotation magnetic field corresponding to the time-step width and performing a magnetic field analysis in the rotor space by using a rotation result added with the constant components as the boundary conditions of the slide plane.

3. (Original) The magnetic field analysis method for a rotating machine according to claim 1, wherein the magnetic field distribution is expressed by a physical quantity.

4. (Original) The magnetic field analysis method for a rotating machine according to claim 1, wherein the magnetic field analysis method comprises:

a process of obtaining the magnetic field distribution through repetition of said first process and said second process;

a process of calculating a remaining difference for each of the repetition; and

a process of displaying the remaining difference.

5. (Original) The magnetic field analysis method for a rotating machine according to claim 1, further comprising a process of displaying the magnetic field distribution on a display screen.

6. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 2, further comprising:

a process of deriving harmonics components from the magnetic field distribution on the slide plane between the rotor and the stator obtained at the predetermined time;

a process of performing a magnetic field analysis in the stator space; and

a process of performing a magnetic field analysis in the rotor space wherein said harmonic component is added to said rotation fundamental mode components.

7. (Currently amended) A computer program stored on a computer readable storage medium for making a computer execute a magnetic field analysis method for a rotating machine comprising:

a first process of receiving, as initial values, a value of a magnetic field distribution in a stator space and a value of the magnetic field distribution in a rotor space; ~~and~~

a second process of calculating the magnetic field distribution in a whole analysis space by using said initial values; and

outputting the magnetic field distribution.

8. (Canceled).

9. (Original) A magnetic field analysis method for a rotating machine comprising:

a process of deriving constant components and rotation fundamental mode components from a magnetic field distribution on a slide plane between a rotor and a stator obtained at a predetermined time;

a process of separating a whole analysis space into a stator space and a rotor space;

a process of rotating a rotation fundamental mode by a rotation angle of a rotation magnetic field corresponding to a time-step width and performing a magnetic field analysis in the stator space by using a rotation result added with the constant components as boundary conditions of the slide plane; and

a process of performing a magnetic field analysis in the whole analysis space by using, as initial values, a magnetic field distribution obtained in the stator space and the magnetic field distribution in the rotor space already obtained at the predetermined time and obtaining a magnetic field distribution at a time lapsed by the time-step width from the predetermined time.

10. (Original) The magnetic field analysis method for a rotating machine according to claim 9, further comprising a process of deriving harmonics components from the magnetic field distribution on the slide plane between the rotor and the stator obtained at the predetermined time, wherein in said process of performing the magnetic field analysis in the stator space, the harmonics components are added to rotation fundamental mode components.

11. (Original) A magnetic field analysis method for a rotating machine comprising:

a process of deriving constant components and rotation fundamental mode components from a magnetic field distribution on a slide plane between a rotor and a stator obtained at a predetermined time;

a process of separating a whole analysis space into a stator space and a rotor space;

a process of rotating a rotation fundamental mode by a rotation angle smaller than a rotation angle of a rotation magnetic field corresponding to a time-step width and performing a magnetic field analysis in the stator space by using a rotation result of the rotation fundamental mode added with the constant components as boundary conditions of the slide plane;

a process of rotating the rotation fundamental mode by a rotation angle smaller than an angle obtained by subtracting a rotation angle of the rotor from the rotation angle of the rotation magnetic field corresponding to the time-step and performing a magnetic field analysis in the rotor space by using a rotation result of the rotation fundamental mode added with the constant components as boundary conditions of the slide plane;

a process of obtaining a magnetic field distribution in the stator space and a magnetic field distribution in the rotor space, respectively at a time lapsed by the time-step width from the predetermined time, from the magnetic field distribution in the stator space and the magnetic field distribution in the rotor space; and

a process of performing a magnetic field analysis in the whole analysis space by using, as initial values, the magnetic field distributions in the stator space and in the rotor space obtained at the time lapsed by the time-step width and obtaining a magnetic field distribution in the whole analysis space at the time lapsed by the time-step width from the predetermined time.

12. (Original) The magnetic field analysis method for a rotating machine according to claim 11, further comprising a process of deriving harmonics components from the magnetic field distribution on the slide plane between the rotor and the stator obtained at the predetermined time, wherein in said process of performing the magnetic field analysis in the stator space, the harmonics components are added to rotation fundamental mode components.

13. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 1, wherein said method is a computer implemented method.

14. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 9, wherein said method is a computer implemented method.

15. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 11, wherein said method is a computer implemented method.

16. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 7, wherein said second process comprises:

a process of deriving constant components and rotation fundamental mode components from the magnetic field distribution on a slide plane between a rotor and a stator obtained at a predetermined time;

a process of separating the whole analysis space into the stator space and the rotor space;

a process of rotating a rotation fundamental mode by a rotation angle of a rotation magnetic field corresponding to a time-step width and performing a magnetic field analysis in the stator space by using a rotation result added with the constant components as boundary conditions of the slide plane; and

a process of rotating the rotation fundamental mode by an angle obtained by subtracting a rotation angle of the rotor corresponding to the time-step width from the rotation angle of the rotation magnetic field corresponding to the time-step width and performing a magnetic field analysis in the rotor space by using a rotation result added with the constant components as the boundary conditions of the slide plane.

17. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 7, wherein the magnetic field distribution is expressed by a physical quantity.

18. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 7, wherein the magnetic field analysis method comprises:

a process of obtaining the magnetic field distribution through repetition of said first process and said second process;

a process of calculating a remaining difference for each of the repetition; and

a process of displaying the remaining difference.

19. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 7, further comprising a process of displaying the magnetic field distribution on a display screen.

20. (Previously presented) The magnetic field analysis method for a rotating machine according to claim 7, further comprising:

a process of deriving harmonics components from the magnetic field distribution on the slide plane between the rotor and the stator obtained at the predetermined time;

a process of performing a magnetic field analysis in the stator space; and

a process of performing a magnetic field analysis in the rotor space wherein said harmonic component is added to said rotation fundamental mode components.